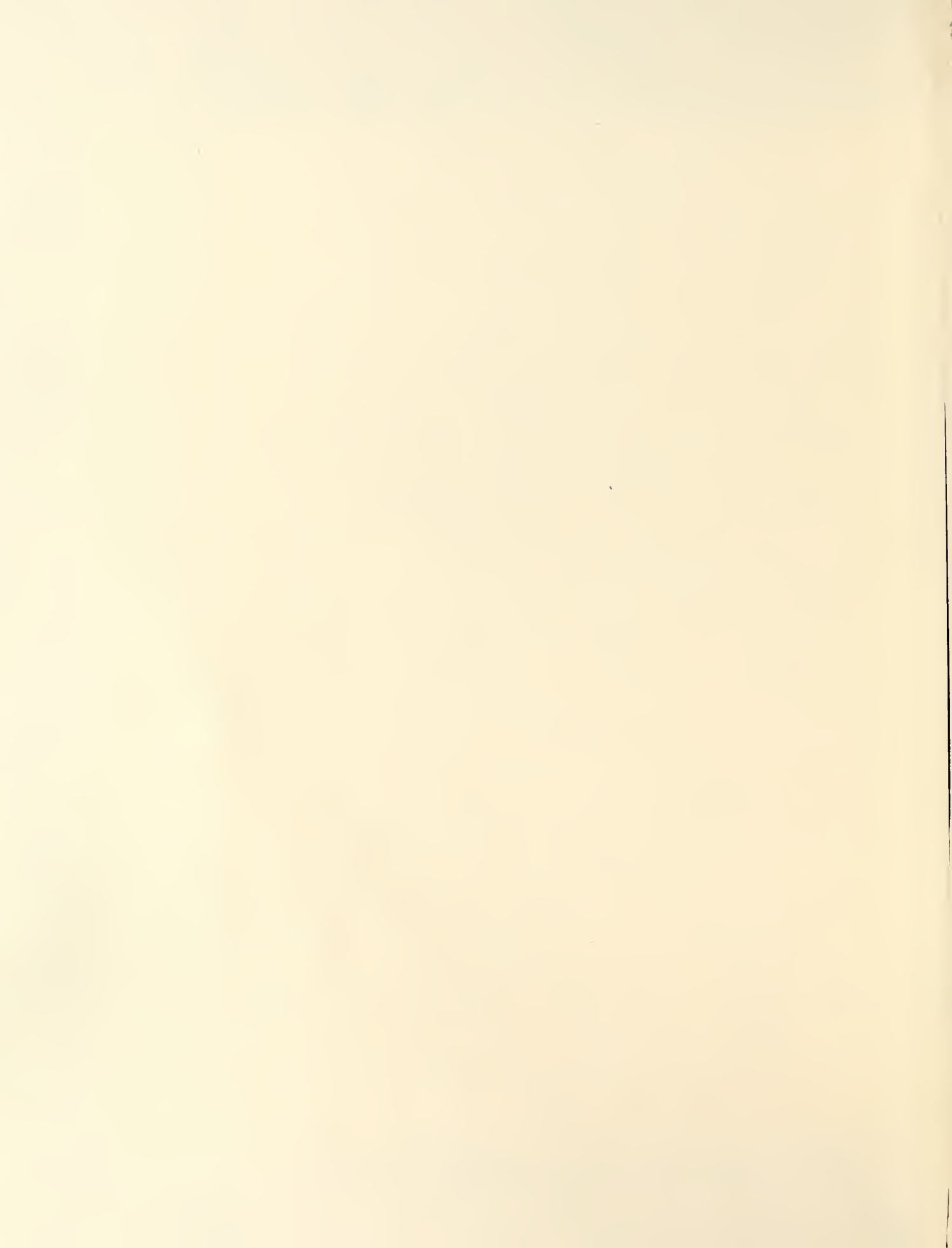


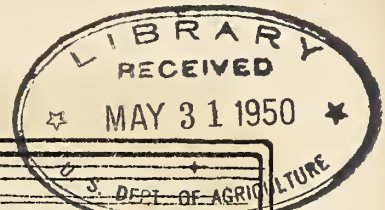
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Vol. 2, No. 5

May - 1937

KINDERGARTEN FORESTRY

In a talk before a service club recently I mentioned among the factors which contribute to the large number of tree-planting failures the fact that many planters fail to take proper precautions to prevent the drying out of the roots of their planting stock. I related having passed a car that day carrying a bundle of cottonwood wildings with the roots entirely exposed, and predicted that the owner would be wondering shortly why his trees failed to live.

At the conclusion of the talk, the president of the club exclaimed, "Why on earth hasn't someone been telling us these things for years! I hate to think of the number of trees I have lost, doubtless because I didn't know just that one fact."

Elemental? To a forester, yes. But not necessarily to anyone else. Probably the practitioners of all crafts tend to overlook the ignorance of the public in the fundamentals of their specialties, and ordinarily it is of no particular moment because they are not concerned with public instruction. But we are. In fact, I do not think that we could justify our existence in this region solely on the basis of our planting program. Unless we are going to vastly stimulate private planting as well, our presence here is not going to be of its greatest possible benefit to the region.

But we will not appreciably stimulate tree planting until we teach people how it may successfully be done. There have been too many failures; too many prospective planters have become discouraged. Witness the fact that private planting has been on the decline throughout the Plains for years.

We have so far been devoting nearly all of our educational effort to the "why" of tree planting. I wonder whether we should not now devote most of it to the "how" phase. After all, any discussion of technique carries with it the implication that there must be some good reason for practicing it.

But let us not forget that our teaching job is of kindergarten caliber. We cannot afford to take any degree of public knowledge of forestry practice for granted. It will profit us nothing to convince a farmer of the advantages of a "forest community" type of plantation if he thereupon attempts to achieve it with wilding stock dug a month too late, allowed to sit around the barn a couple of days, and finally planted six inches too deep in dried-out lister furrows.

- E.L.Perry, R.O.

DEMONSTRATION AREAS

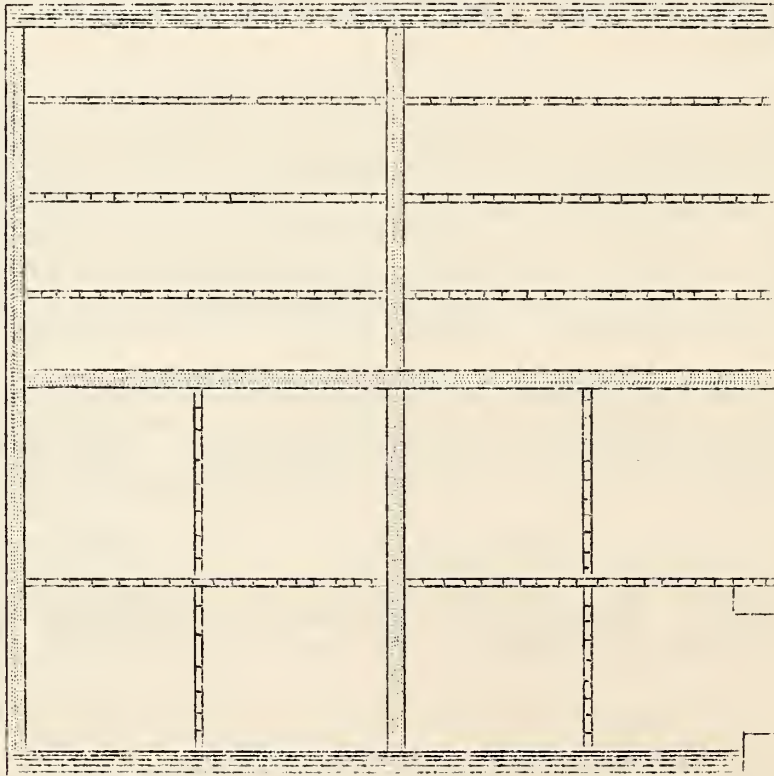
As a result of the desire and interest of the States, Extension Service, Regional Office, and others, for an area as completely planted as possible to effect what is considered complete protection to farm land, areas have been selected in several of the States on which such plantings will be made. It is felt that such plantings will have a high demonstration value as to just what can be accomplished in protecting land and crops.

These areas are from one-half to one section in size and are located on good farm land, lying fairly level, with sandy soil and subject to seasonal blowing. The farmers on whose land these plantings are being made are confidently looking forward to some real protective value from these belts, in addition to some wood products such as fuel and posts. Also the neighbors and others in the community have expressed themselves as really interested, and are going to watch developments closely.

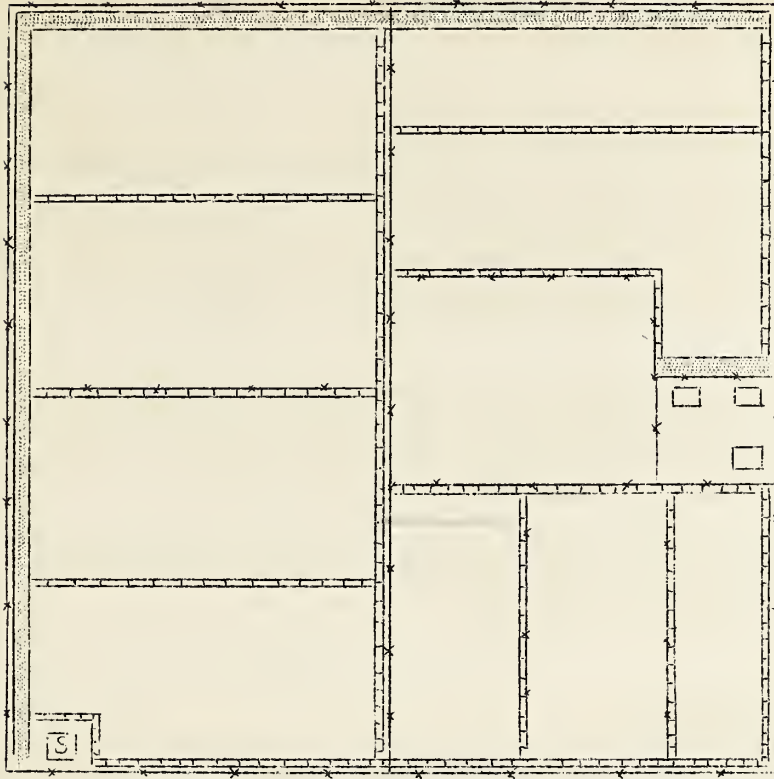
Following are plats of the Nebraska, North Dakota and South Dakota proposed demonstration plantings.

- Jerome Dahl, R.O.

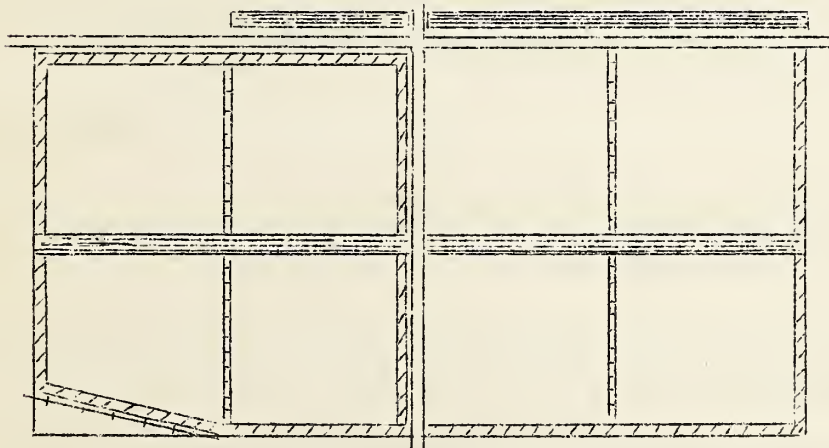
Demonstration Planting - Holt County, Nebraska
Sec. 16, T. 29 W., R. 9 W.



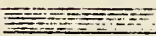

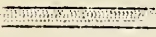

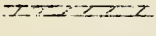
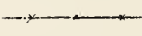
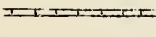
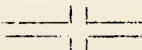
Demonstration Planting - Dickey County, North Dakota
 Sec. 29, T. 132 N., R. 59 W.



Demonstration Planting - Sanborn County, South Dakota
 NW1/4 Sec. 28 and NE1/4 Sec. 29, T. 170 N., R. 61 W.



Legend

- | | |
|---|--|
|  1936 strips - 10 rod |  Farm buildings |
|  Standard 5- and 7-rod belts |  School |
|  5-row belts |  Fence |
|  3-row belts |  Road |

AND SO THEY GREW!

Oklahoma lays claim to the first seed production in the shelterbelt strips. Near Mangum there is a strip with two rows of Russian mulberry which this spring are bearing fruit. The black locust trees in some of the strips have also bloomed, and are setting on seed. These are trees which were planted just two years ago.

It looks as though we were going to have to have a standardized special use permit to accommodate the birds who want to establish homes in our strips. At this time the brown thrushes, scissortails and orioles are quarreling over the choice locations. All these birds are strictly insectivorous and will eagerly agree to collect insects from fields near the shelterbelt to feed their young. The prospective parents will also doubtless agree to have their offspring return next year for the same purpose.

The birds, especially the scissortails, are seen near the strips in larger numbers than for many years. The farmers give this bird a hearty welcome because of the large number of insects which he catches. The trees offer the birds protection from their natural enemies.

A nest was observed today with four fledgling mocking birds in it, just beginning to feather out. An effort will be made to take a picture of the parents feeding this brood.

- Howard Carleton, Jr., Oklahoma

RABBIT CONTROL IN NEBRASKA

The following is an actual count of the rabbits killed on the Nebraska Unit of the Prairie States Forestry Project since August 1, 1935. It is conservative to say that an equal number were never found due to crows, dogs, coyotes, weather conditions, and the fact that a great number of poisoned rabbits die some distance from the strips. Also, the following figures do not take into account rabbits poisoned since February 1936, since under the present set-up there is no means of obtaining a count on them.

	<u>Number killed</u>
8 mo. - August to March 1935-36 (22 mi. protected).....	11,015
3 mo. - April to June 1936 (127 mi. protected).....	5,943
9 mo. - August 1936 to May 1937 (127 mi. protected).....	<u>16,773</u>
Total.....	33,731

Approximately 512 sections were covered by control work which would give an average of 66 rabbits killed to the section in 20 months.

In a year's time, 33,731 rabbits could eat enough dry matter to feed 1,349 steers an equal length of time, a theoretical figure but entirely possible. This fact alone if brought to the attention of the farmer should awaken him to the seriousness of the rabbit problem and aid us materially in obtaining cooperation. It should also indicate the possible damage to shelterbelt trees had these 33,731 rabbits been left alive.

- Robert Isaac, Agent, Biological Survey

CULTIVATION IN KANSAS

The severe drought of 1936, together with the accompanying grasshopper rampage, brought home the fact that trees survived on clean cultivated strips, while they died on those which were poorly cultivated. As a result of this lesson the farmers are on the job this year awake to the importance of cultivation and determined that their strips shall be kept clean. Tree cultivation has been taken on by many County Agents as added activities, and the Extension Forester, Mr. Smith, is stressing the need for cultivation.

At a cooperative cultivation field day on April 29, put on by County Agent Murphy of Comanche County, Mr. Smith, Extension State Forester, and Mr. Ziegler, local representative of the Forest Service at Coldwater, it was clearly shown that excellent cultivation is being accomplished by the farmers themselves using all sorts of field equipment. On the M. O. Paral farm a horse-drawn disc was used effectually in quite trashy ground to put the soil in good condition and to put the weeds in their proper place. R. F. Thomas used different types of two-row listers to care for his strip. The tractor was driven astride the row and the listers were wide-spaced so that one operated on each side of the row. On the Brown farm the spring-tooth harrow was used on a 1935 strip, probably more effectually than any other tool since it was possible to get close up to the trees under the branches without injury. Beeley used a 12-foot spring tooth cultivator with 12-inch sweeps, letting the row pass under it by raising three of the shanks.

In summarizing the different methods of cultivation, the following points were observed:

1. Deep listing is quite effective between the rows, especially in strips subject to blowing, yet it does not get the weeds in the rows and the trenches must be sledged in before the next cultivation. Deep listing is very injurious to the roots of 1935 plantings.
2. Discing is successful between the rows where there is excess trash, but is not recommended where sand blowing is probable. It is not possible to get all the weeds in the row with a disc without covering up a considerable percentage of the trees.
3. A spring-tooth harrow is probably the most effective tool for cultivating underneath the branches of larger trees without injuring the trees.
4. A spring-tooth cultivator is good if the ground is not too trashy on first-year strips and the row is straddled. Three of the shanks are raised to let the trees pass underneath, but it leaves weeds in the row.
5. A two-horse corn cultivator either drawn by horses or close hitched behind the tractor cultivator was the implement which gave clean cultivation in the row. In order to be effective, the two-horse cultivator must be driven astride the row, must be easy to guide, and must have an operator on it at all times to steer it between and around the trees effectively. Due to the trees being much farther apart than corn, it is possible to cultivate out the weeds between the trees in the row without injury, even though they may be slightly out of line.

6. The Forest Service Minneapolis-Moline tractor with regular corn cultivator attached, or with four ten-inch listers on the tractor bar leaves weeds in the row which cannot be gotten rid of without injury to the trees because of the staggering of the trees in the row. To get rid of the weeds in the row it is necessary to attach a flexible cultivation tool close behind the tractor and have it sufficiently mobile so that the operator riding on it can cultivate out the weeds in the row even though the trees may be slightly out of line. By close hitching a two-row horse type Oliver corn cultivator close up behind our tractor cultivators, we are now able to clean out practically all of the weeds in the row without injuring the trees. This cultivation has a combination wheel and shank steering device which is very well adapted to our requirements, so that virtually all need for hand hoeing is eliminated wherever this type of machine is used.

- W.J.Baxter, Kansas

TRAINING WILL TELL!

In demonstrating the Forest Service method of estimating range-carrying capacity in Texas, the word "density" was much emphasized and repeated. This was necessary because density for this purpose related to determination of amount of vegetation on the range land, so that at each succeeding training school the word was used over and over again until the echo of it was carried along as if by momentum in the minds of all the men engaged on that work.

On concluding the work in Texas and moving on to Oklahoma, a couple of hours of slack time was available in Oklahoma City. Our men and the AAA men were traveling in a group. They desired to see as much of the town as possible in the short time available and decided that the best way of doing this was by going to the top of one of the tall buildings. Upon reaching the top floor they found a broadcasting station and a group of several interested spectators. A commercial advertising program was about to start. The principal feature of the program was a series of carefully prepared questions - these to be answered by the half-dozen individuals selected by drawing from the audience.

Mr. Grover Hill of the Southern AAA Division, Washington, D. C., and our Mr. Guy C. Kyes, drew active numbers. Each tried to give his number away, but without success. Grades were given the individuals according to their answers. Competition for the lead soon narrowed down to Mr. Kyes and another person. It was a nip-and-tuck proposition, with first one and then the other in the lead by a narrow margin. Near the close, with Kyes just barely slipped back from the lead, he was asked: "What is the difference between a cloud and a fog?" Kyes' associates, in telling of the incident, say that he was stalled and that in his momentary confusion he automatically uttered the word he had been repeating and stressing so persistently during the past week - "density." Lo and behold, this word given under those circumstances was the correct answer, and it again shoved him into the lead and enabled him to win a \$15 cash prize.

- F.Lee Kirby, R.O.

FUMIGATION OF BURR OAK SEED

Last fall North Dakota collected 5,000 lbs. of acorns. The seed was in excellent condition but there was some evidence of weevils in the nut.

Much speculation centered around the amount of carbon disulphide to be used in fumigation. The manual said to use from 1 to 40 lbs. per 1,000 cu. ft. of space. Various quantities were tried with various exposures. Two seemed to give good results.

- (1) $\frac{1}{2}$ oz. carbon disulphide (CO_2SO_3) exposed on a saucer in the top of a ten (10) gallon can full of Burr Oak exposed 24 hours.
- (2) 1 oz. as per above. Ten gallon can tightly corked.

After several trials, method 2 was followed; best results were obtained with 36 hours exposure.

With method one an occasional larva escaped.

Immediately after treatment, seed was aerated and buried in a pit in moist sand. This spring cutting tests show 90 per cent on seed treated with method two. Not a single live larva has been found. Seed treated with method one had an occasional live larva this spring.

Untreated seed run as a check shows only 50 per cent cutting test, considering the larval damage. In the bad seed the embryo has not always been destroyed and germination might be better than cutting test indicated.

A small quantity of untreated, unstratified seed was left in a warehouse as a check. Result: Cutting test zero zero.

It would appear that we now know how to handle burr oak seed.

The development of larvae in the nut is very rapid. Seed examined during collection showed no signs of larvae. Two to four days later larvae were well developed. Treatment to be successful must be done as soon as possible. The above method lends itself readily to field treatment and treatment can be started as fast as collection progresses.

- L.A. Williams, N. Dak.

KANSAS RCP TRAINING SCHOOL

The meeting opened on April 7 with twelve examiners in attendance. Mr. Reitz briefly outlined the broad AAA program, giving each man the proper perspective for the range work, and stressed public education along range management and conservation lines as being of vital importance. Dr. Aldous of the State Agricultural Experiment Station gave two very pertinent illustrated lectures on the condition of Kansas range land, and desirable conservation practices.

Classroom discussion of regulations, instructions, etc., occupied approximately one-half the period in order that they become thoroughly imbedded in our minds. In view of the fact that the forage has not put on any appreciable growth, considerable time was spent studying plant identification

by vegetative characters. One "shotgun" quiz took us all unawares, and from then on good attention was paid to study and assignments. The class acted as an audience of operators and each examiner gave a prepared talk on some range-program subject, suitable for presentation to such a group. After each talk the meeting was thrown open to questions and the speaker was given an opportunity to answer inquiries typical of these field meetings.

Field work started with several days on plant identification, which led to estimating densities and compositions, which were checked on the ground by the square-foot method. Estimates of density under normal growth of the principal species were checked at the Agricultural Experiment Station greenhouses, where specimens were examined which had acquired normal growth. Valuable assistance in this work was furnished by Messrs. Dutton and Simpson of the Washington Office, and Director Roberts of Lincoln when they visited the school. Hypothetical cases were worked out in the field by the group, and one day was spent in the field on examinations and reports on 1937 applications.

Ed Ware of the Lake States Forest Experiment Station made a very interesting talk on the timber survey in Kansas, and we learned that there really are some trees in Kansas. (Some 2,500,000,000 board feet, to be exact.)

Malcolm Stuart instructed us in the preparation of expense accounts, etc., before the school broke up on the twenty-second, but the I.Q. of the group must be pretty low from the looks of the expense accounts submitted so far.

A final get-together dinner dance was held on the University campus which was attended by all the examiners and members of the local organization, plus their better halves or current sweethearts. Interesting talks were made by Dr. Aldous and Messrs. Ihlanfeldt and Reitz, after which cards and dancing were enjoyed.

- John C. Baird, R.O.

OH, I SAY! NOT CRICKET, WHAT?

A couple of week-ends ago Oklahoma and Texas put into execution an idea which had been simmering for quite some time, and staged a get-together at Medicine Park, Oklahoma, in the Wichita Mountains.

Texas was not so abundantly represented as Oklahoma, who literally swarmed in, but except in one relatively insignificant event, namely a ball game, we held our own very nicely. Of course some of the Oklahoma tactics were slightly askew, such as allowing us only two outs in one inning, using their good batters and completely overlooking anyone who might be trusted to fan out, and having so many fielders that there was not room enough for even a ping pong ball to get through; but in spite of those unorthodox handicaps we might at least have tied the score if we had not agreed that the runner should decide whether or not he made each base safely. That put entirely too much strain on Sam Byars. However, Sam was in Texas once and we should have known better, so it's our own fault that he was practically always on the base just in time.

Incidentally Slim Engstrom upheld the batting average of the R.O., and we'll let him play on our side again. (Texas sincerely hopes that this version of the ball game reaches PLAINS FORESTER before Oklahoma's does.)

Walt Webb and Jules Vogel displayed a very surprising degree of culinary skill in cooking steaks and hot cakes - of course the steaks were in spots just beyond what is known as excessively well done and one of the flap-jacks required two skillets to accommodate it, but after all we're healthy folks and our digestive organs were equal to the ordeal.

It's still a matter of considerable chagrin to Jules that on the Monday evening after the picnic, when R.O. wired for our Nuera 2 report, he replied with Nuera 3, in all its entirety - not to mention verbosity.

- Maurine Alexander, Tex.

COOPERATIVE TREE PLANTING IN IRRIGATION DISTRICT

When A. E. Scott moved to Scottsbluff County, Nebraska, in 1925, he settled on a unit of the Pathfinder Irrigation District. Mr. Scott found the soil to be a light sandy loam, very productive, but restless when broken up because of frequent strong winds. The first year most of the land was planted to corn, but when it was three or four inches high, blowing sand destroyed it. The field was replanted to beans and a fair crop matured, but after pulling and piling them, sand drifted into and over the piles to such an extent that much additional work was required to dig them out for threshing.

Mr. Scott, according to R. B. Balcom of the U. S. Bureau of Reclamation, was not discouraged, but he decided that something had to be done to alleviate the effects of the winds. He thought of planting trees but his financial condition would not permit him to purchase nursery-grown seedlings and, anyway, the "old timers" told him they probably wouldn't grow.

Mr. Scott noticed a lot of cottonwood wildings on sand bars along the North Platte River, and as the gathering of these trees cost only labor, he and his son Charles pulled several hundred and planted them part way along the west side of the field, which had blown so badly the year before. They grew, and each year he planted more.

As times got better, he purchased Clarke-McNary trees and lined them out in his garden for a year after which he reset them around his buildings and along the road. Within his farmstead shelterbelt he planted blackcap raspberries and other small fruits which yielded, even in 1936, more fruit than was required for his own use, so that he had some to sell to his less fortunate neighbors, and to the local store.

There are now between two and three miles of field shelterbelts growing on Mr. Scott's 110-acre farm, which is one of the finest in the valley. He watches the dust-laden currents of the wind, and traces the paths of the wind over his farm. Mr. Scott relates many experiences in which his shelterbelts have saved his crops. Last year a four-year-old row of cottonwoods

saved a part of a field of potatoes. The forty-two rows (130 feet), next to the trees produced a bumper crop; on the next fifty rows, some potatoes were dug, but farther out from the trees, the crop was an entire failure. This year a barley field gives evidence of protection by a shelterbelt. The north end of the field is protected by the 1926 shelterbelt, but the south end has protection only from trees planted in 1936. This spring the north end is healthy and green, and the south end stunted, and of yellowish color. Mr. Scott has one field of alfalfa protected by a shelterbelt which requires only two acre feet of irrigation water per year, to produce an above-average crop. Another field of alfalfa which is unprotected, requires three acre feet of irrigation water and produces less tonnage of hay per acre. Mr. Scott claims that the protected field is often wet with dew until ten o'clock in the morning.

For the past three years the Bureau of Reclamation, under the direction of Mr. Balcom, has been helping its farmers establish field windbreaks by planting wilding cottonwoods with CCC labor. This spring the Bureau and the Pathfinder Irrigation District asked the Forest Service to cooperate with them in supplying planting stock, assisting in land negotiations, and furnishing planting equipment and supervision for CCC enrollees. Donald W. Nelson headed up our end of the cooperation with headquarters at Scottsbluff. He was assisted by Junior Foreman Eaton, and Strawboss Allen. Approximately 60 miles of three-row field shelterbelts were planted by seven CCC planting crews in two concentration areas in Sioux, Scottsbluff and Morrill Counties. Two hundred thousand trees were planted and an additional two hundred thousand undersize seedlings lined out for additional growth, in a small nursery. All trees can be irrigated as well as cultivated.

The Pathfinder Irrigation District is located on the north side of the North Platte River, and extends from Bayard, Nebraska to a point in Wyoming northeast of Torrington, with 115,000 acres under irrigation. The majority of the farms are eighty acres, and need strips along the north and west side of each.

The soil, for the most part, is extremely sandy, and according to Nelson, will compare very closely to the Turkey Area in Texas, the Kinsley Area in Kansas, the Stapleton Area in Nebraska, and the Towner Area in North Dakota. Sugar beets, beans, potatoes, and alfalfa are the four major crops. It is common practice to rotate beans with alfalfa, and several farmers have been trying to get fields seeded for three years without success. The seed blows out before it has time to germinate and grow.

- J.L.Emerson, Nebr.

RABBIT PELT BUSINESS IS CONSIDERABLE INDUSTRY

In a report made by Agent Foreman Walter W. Dykstra of the Biological Survey in charge of cooperative Farm Forestry rodent control in North Dakota, Mr. Dykstra submits data gathered from raw fur buyers of ten North Dakota towns giving the numbers of jack rabbit and other skins bought by leading buyers of the localities.

In his report Mr. Dykstra shows that 870,000 rabbit skins were purchased during the Winter of 1936-37 by ten dealers at an average price of 10¢ each. In addition to the reporting firms there are large numbers of small buyers and individual hunters who ship their pelts direct to large outside fur markets. When pelts shipped by large numbers of hunters and the small local buyers who ship direct are considered, the 1936-37 Winter's commercial kill of jack rabbits along the course of the Forest Service shelterbelt plantings through North Dakota, exceeded 1,000,000. Most of those accounted for through the fur months by the poisoning campaigns carried on for the protection of trees of the Farm Forestry strips were included in the numbers marketed, as it was known that large numbers of rabbits were gathered by farmers from the strips.

The jack rabbit population in North Dakota is estimated from previous hunting operations to be 100 adult rabbits to the square mile. In South Dakota they are in greater numbers and previous hunting operations gave the information that there were in the fall of the year 175 rabbits to the square mile. The rabbit pelts marketed in the two Dakotas that came from the course of the shelterbelt plantings through these two States exceeded 3,000,000 skins.

Mr. Dykstra's report also gave the information that 36,400 weasel, 50,050 skunk, 1,000 coyote, 868 red fox and 843 mink skins were collected by the ten reporting buyers of North Dakota. Of these animals, the weasel is particularly beneficial in keeping under control tree and crop destroying rodents.

- F.E.Cobb, N.Dak.

NATURAL (?) HISTORY NOTE

The Region 3 Daily Bulletin reports that Assistant Supervisor Garvin Smith recently found a three-tailed lizard roaming the wilds of the Coronado Forest. Not because we doubted Garvin's veracity, but merely to satisfy our inherent thirst for knowledge, we referred the report to Shelterbelt Sam, our natural history authority.

"Shore," says Sam, "I seen one onct. Hit was goin' on three o'clock of a Sattidy night. (Editor's Note: Sunday morning to you.) I wouldn't have paid it no mind, only it rared up on its hunkers and thumbed its nose at me, and of course I couldn't stand for no such disrespect from a mere microsalaadocamus tricaudapendages. So I up and chased hit through three saloons and finally into some strange party's bedroom in the ho-tel. I would shore have ketched hit there only this party, bein' female and not interested in scientific investigations, raised a awful ruckus and the town marshall come and dragged me off to the calaboose. I aint seen none since, but I aim to do some more explorin' around, especially if the town marshall stays sick a spell longer."

This erases all doubt from our mind. The three-tailed lizard is an established fact and we are now all braced for the discovery of a tree-dwelling octopus, or a lavender chipmunk that sings Sweet Adeline at high noon.

- E.L.P.

During the planting season in Texas, each District submitted a Weekly Progress Report showing the total number of trees and man days used in planting these trees for each planting crew. At the beginning of the season it was announced that the crew making the best record during the planting season would be given a prize. The compilation of these reports at the end of the planting season reveals some figures which we feel might be of interest to the other States.

The State average for the number of trees planted per man day was 503. We feel that this is an exceptionally good figure because for more than 50% of the total mileage planted this represents only six hours of effective planting time per man. The concentration areas in the vicinity of Turkey and Shamrock required a four-hour round trip from the locations where we obtained our labor. The men traveled two hours on their own time and two hours on our time, which left them not to exceed six hours actual planting.

The record number of trees planted during any one-week period by any crew was 808 trees per man day, established by an all-negro crew under a negro foreman, planting in sandy soil. This crew did not, however, win the award as they were together for only a one-week period and the award was based on work for the entire season. A crew in Shelterbelt Assistant Kemp's district, under the leadership of Foreman J. C. Parker and supervised by Supervisory Strawboss Jack Burt, established the season's record for the State with an average of 701 trees per man day during the entire planting season. A good share of the time these men could put in only six hours of effective planting time for the reasons noted above. Had this crew been able to plant eight hours per day straight through the season we feel that it would have averaged close to 850 trees per man day.

Each member of the winning crew, including the foreman, tree tender and the supervisory strawboss, was presented with a necktie as recognition of their work.

There have been some statements to the effect that southern crews do not work as hard or as fast as those in the north. We feel that the records established by the WPA planters in Texas will stand up fairly well with those established in the northern States, and we will be very interested in learning through the PLAINS FORESTER the planting averages and records established in the other States.

A sled seeder developed in Oklahoma has been purchased and is being used in the nursery at Plainview. After watching this machine in operation, we feel that it should be standard equipment in every shelterbelt nursery, and that it will within a short time replace the former method of hand sowing. This machine has averaged about two acres a day since the start of sowing operations.

One addition to the machine has been made in Texas. This consists of a drag arrangement which constructs the irrigation furrows at the time of seeding, and eliminates a second trip over the ground for this purpose; it also allows the use of irrigation water immediately following the seeding operation. We hope to complete seeding operations in the Plainview Nursery during the latter half of May.

- W.E. Webb

THE FARMER'S CONTRIBUTION TO TREE PLANTING

When compiling figures representing what the Government is doing towards tree planting in Kansas, we are quite likely to overlook the amount of hard cash the farmer is also putting into the program. On the 52 strips of new planting where planting and fence building has just been completed, it was found that the average size of each strip was 5.67 acres; that the total cost to their owners for ground preparation was \$427.95, or an average of \$1.45 per acre; that the total cost of fence material on these strips was \$2902.15, or an average of \$9.82 per acre; and that the average cost to the farmer for ground preparation and fencing material alone was thus \$11.27 per acre.

This, of course, does not take into account the farmer's further contribution in cultivation and care of the plantation.

- T. Russell Reitz

REAL INTEREST IN TREES

Farmers in the Larned District are generally much more interested in shelterbelts this spring than they were in either 1935 or 1936, both as to getting new plantations, and as to cultivation and care of those they already have. One man said, "I'd rather lose a crop than lose my trees."

A man who had just bought a farm near Haviland came to Larned last Sunday, and said the first thing he wanted on it was a mile of shelterbelt. He had come to town solely to see if he could get the plantation.

Nearly all farmers in Barton and Pawnee Counties have cultivated their strips themselves at this date (May 7) and have them in fine condition. They are taking a real interest in getting a grove of trees established.

- Aubrey E. Davidson

FARMER COOPERATION IN RODENT CONTROL

The value of farmer cooperation on rodent control work in Kansas has gone over the thousand dollar mark for the month of April. 3049 man hours of labor were contributed by farmers in exposing poison and hunting during the month. This labor would have cost approximately an average of 34 cents per hour had relief roll labor been employed to do the work. A saving, therefore, of \$1,036.66 was made by the Project.

Poison for rabbits was exposed in 8280 acres in the localities of tree strips. Together with hunting 21,120 acres, this month's campaign resulted in the deaths of over 4000 of our long-eared friends. 550 acres were poisoned for kangaroo rats, pocket gophers and prairie dogs.

- Frank Sampson, Agent Foreman
U. S. Biological Survey

THE NATION'S FOUNDATION

At a recent meeting of Kansas 4-H Club leaders, Dr. L. E. Willoughby of the Kansas Agricultural College said, "The ideals, incomes, and the homes of the next generation depend upon the maintenance of soil productivity. The soil is the foundation of national prosperity. Just as the permanency of mechanically-built structures depends upon a solid foundation, so does the prosperity and happiness of the nation depend upon its foundation, which is the soil.

"The soil is indispensable to prosperity. Today, erosion by wind and water is undermining the foundation of agriculture."

Vernon Marshall, who has been in charge of the Neligh District with 140 miles of new planting this spring, has tendered his resignation to become effective June 30. We understand Vernon will have a responsible position with the Marshall Nurseries at Arlington, when that firm undergoes a reorganization early this summer. We regret losing Vernon but, of course, rejoice in his being able to secure a better position. E. G. Champagne will take over the Neligh District when he returns from South Dakota about June 1, so that Marshall can take his accumulated leave prior to assuming his new duties at Arlington.

Harry Rigdon has been detailed to Nebraska for a week or ten days to take charge of Chinese elm seed collection in the western part of the State. There are prospects of an exceptionally abundant crop of this seed this spring, so collection costs should be reasonable. We plan to collect approximately 1,000 pounds of seed, dry weight, in order that the Dakotas will be assured of their needs if the crop fails to mature farther north.

The spring planting program will have been completed by the time this issue of PLAINS FORESTER goes to press. Approximately 325 miles of new shelterbelts, besides replanting about 85 miles of old strips, constituted our spring job. The season started out dry, but a number of good rains have been received which will give the trees a much better start than last year.

E. Garth Champagne completed all planting in the Kearney District in time to be detailed to South Dakota on May 3. James F. Overby will have charge of the Kearney District for the balance of the Fiscal Year, or until Region 2 insists on his return.

Elsewhere in this issue of PLAINS FORESTER is an article regarding cooperative work with the Reclamation Service in the vicinity of Scottsbluff, Nebraska. Don Nelson, who has been in Nebraska on detail from Region 1 since about April 1, had charge of this work at Scottsbluff and did a fine job. He is returning to his Ranger Station on the Lolo Forest May 15.

Ed Perry has helped us out considerably in PR work the past month by showing slides and giving addresses before seven groups over the State. A very favorable response has been secured from these gatherings and we believe this type of PR will go a long way in acquainting people with our work.

KEARNEY DISTRICT REPORTS

The planting season whizzed by so quickly we hardly knew it started. All the old strips have been completed and about 10 miles of new shelterbelts planted. All the new applications were received without any special effort on our part. A small amount of fencing and seed collection is in progress at present.

The main question which has arisen in this area is the preparation of last year's sod plantings, most of which were entirely replanted. Most of these strips were plowed and disced, but at best this left the soil in a very loose condition, easily dried out. Some of the cooperators, most of them with years of farming experience, preferred to list their strips. This eliminated the necessity of our marking the strip, since every third row is approximately ten feet apart. The cooperator can thus tend the trees with his ordinary farming equipment.

It would be interesting to get some further opinions on this subject.

- James F. Overby, Nebr.

Replanting is in full swing in all districts with about 700 relief rollers working at this date, May 6. All districts are reporting more trees needed for this work than were originally allotted, which had made necessary the reduction of mileage of new plantings on two of the concentration areas.

The Range Examiners reported May 3. Twenty men have been assigned to North Dakota. One examiner and one inspector have not reported due to illness. The training is in charge of D. A. Arrivee of Lincoln and K. W. Taylor. The latter will be in charge of the examinations with L. A. Sample and James H. Macnair as inspectors.

The second day all men together with the State Director went to Fargo at the request of the Director of Extension. Here talks were given, slides shown, and discussions had on identification of grasses by their herbarium. Professor Stevens of the Botany Department returned to Jamestown with the group and went with them into the field the next day to continue the training on identification of species. It is planned at the close of the training here May 14 they will proceed to the U. S. Field Station at Mandan where Mr. J. T. Sarvis will go over the 20-year old grazing experiment, and also give the men identification instruction on the western grasses. From this point the men will proceed to their respective stations for the summer examination work.

IT WAS EVER THUS, OLIVE!

"What is so rare as a day in June!" declaimed the poet. The answer is "Spare time during a day in May!" Come, take a little tour with me.

To the office we go. What's on the program for today? Let's see: a little pile of memoranda - some two and three and four pages long on the desk ready for stenciling; that's a good start for the day. Two assistants busy with these, and the day is begun. The telephone, the telegraph boy - not once but several times an hour. 25 minutes here and 25 minutes there taking dictation. Questions to be answered; questions such as how many copies shall we run? Will all the men want a copy? Shall I do this job or that job first? What has priority? The mail comes in; looks like a mountain. Plenty to do in that I'll wager. Cooperative agreements to be recorded, approved and returned to the districts. Inspection reports to record. Requests for supplies to be filled and mailed out. Files to be sorted, to be looked for, to be filed. So the day goes on. A new foreman reports; the Range Examiners begin to come in. Has any mail arrived in the last few days for Mr. X? We shall see. He is given his mail.

On and on, hour after hour. But it's fun. Because of its variety it doesn't get monotonous no matter how high the work piles. Then too we have the frequent inquirers at the door. Is this the County Agent's office? Is this the office where we can ask questions about crop payments? Where do I enlist in the CCC? Some days I feel more like a voice behind a general information desk than a stenographer in a Forest Service State Office.

- Olive R. Peterson, N.Dak.

For the complete experimental planting, a very fine cooperator was found on State Highway #1, a few miles north of LaMoure. This farm is a full section, with sandy loam soil. All fields are completely fenced with woven wire. The seven-rod belts are on the north and west sides of the section with cross belts of three rows dividing fields into various acreages from 20 to 80. A total of approximately 39,000 trees has been set aside for this planting.

OKLAHOMA :

The Oklahoma and Texas Units of the Forest Service had a joint outing at Medicine Park, Oklahoma, on April 24 and 25, with approximately seventy-five present, including both office and field personnel from both States. The week-end was spent in dancing, playing p--er, cards, hiking, fishing, gormandizing and, last but not least, a fast and furious soft ball game. Oklahoma really took Texas to a cleaning with a score of 31 to 26 in five innings. Baseball history - for high score - might have been made had we not all run down at this point.

(Editor's Note: But see Miss Alexander's description of this game elsewhere in this issue!)

We have had recent rains in all but the northwestern section of the State, which make growing conditions ideal for trees planted in the west central and southwestern sections. We have, however, had one hailstorm, which has caused considerable damage to the trees in our Mangum Nursery. Conditions at present indicate that Oklahoma will have a very favorable seed crop this year in most species.

Mrs. George R. Phillips, wife of the former State Director, is visiting in Oklahoma at the present time and reports that even though they are small-town folks in Washington, they are beginning to learn their way around and things are going well with them.

A simple and efficient method of marking curves has been used in Oklahoma this spring and is being submitted with the thought that it may prove helpful to other States, in case they are not already using it.

Using the inside angle of the corner (determined by measuring in the required distance from the established line) as a hub, a 10-foot pole is used to describe an arc, which then represents the first row. To mark the second row, the inside end of the pole is moved up to the first row mark and, being moved along this mark, the outer end describes the second row. All subsequent rows are marked in the same manner, using the preceding row as a base. It is necessary to maintain the pole at approximately right angles to the base, but it is not necessary to describe a continuous line. A series of "points" on the required arc are marked and later connected up by eye.

This method is especially useful when weeds or stalks are encountered on a curve. It is very difficult to accurately mark a curve by using a chain unless the ground is quite clean and even then it is hard to control the chain on the longer arcs needed for the outside rows. With this method, two men can mark out a curve in a hurry.

Mr. E. W. Tinker, Chief of the Washington Office, Division of State and Private Forestry, addressed the General Federation of Women's Clubs at Tulsa, April 30. Several thousand women from all over North America - as well as one from Belgium - were in attendance. "Ted" did a really high-powered job of speech making, and obviously left the ladies with a very favorable conception of the work of the Forest Service. One of them cornered him after the address and asked his advice regarding a Forest Service career for her two sons.

COST OF SEED IN RELATION TO NURSERY COSTS

A considerable volume of data has been collected and recorded on South Dakota Seed, Nursery, and Wilding costs. This information has all been submitted in a report to the Regional Office.

This detailed analysis of costs reveals several interesting conclusions - one to the effect that the cost of seed plays a larger part in stock production costs than is generally realized. In fact, it may be stated that with a normally good stand for all species at any one nursery, the only cost factor which shows considerable variation for the several species is the cost of the seed.

Other factors such as labor, lease cost, "other direct" and "indirect" are all fairly uniform for all species, and these factors are all high when the production is low, and vice versa.

From an analysis of poor stands or total failures it can be said that the seed man is the "master of destiny" of the project, since it is the per thousand cost of finished stock that actually counts. It has also again brought to our attention that greater efforts must be made to control insects (such as white grubs, blister beetles, cut worms and grasshoppers), plant diseases (as rust on two-year seedlings, damping off, etc.) and to provide for certain and timely irrigation.

For one and two year seedlings, with normal seed cost and normal production, the theoretical cost of seed per M produced would be about as follows:

	<u>First Year</u>	<u>Second Year</u>
Mulberry	.33	
Ash	.35	.25
Caragana	.37	.26
American elm	.56	.20
Chinese elm	.87	
Honeylocust	1.00	
Chokecherry	1.20	1.20
Russian olive	1.36	1.63
Honeysuckle	3.00	1.50
Wild plum	4.50	
Hackberry	5.83	4.44
Walnut and oak	9.30	
Lilac		4.50

These seed costs make it almost prohibitive to grow oak and walnuts in the nursery. It also urges us to make every possible effort to reduce our cost of plum and hackberry seed. It also confirms us in the belief that comparatively heavy seeding is advisable for mulberry, ash, caragana, elms and honeylocust, with proper subsequent thinning. It again emphasizes the importance of handling the higher-priced seed as honeysuckle, plum, hackberry and lilac with the utmost care and to give them every possible attention during the planting and germinating period.

- Max Pfaender, S.Dak.

R. O. GOSSIP

Ray Ward, our Deputy Fiscal Agent, left for Washington on April 17, accompanied by Mrs. Ward and daughter Marilyn Sue. Ray has been assigned to a special detail in the Washington Office for a duration of approximately ten weeks. After enjoying the company of our project "alumni," a good many of whom are located in that city, we hope the Wards will return to Lincoln, safe and sound, on or about July 1, as per schedule.

"Bob" Bennett was called in from the Kansas Office to assist in the Fiscal Division during Ray Ward's absence. Upon his arrival at this office Bob proudly announced that he had been saving his money all winter and could afford another lesson in the Great American Game. We obligingly proceeded with a short session, also inviting Bill Ihlanfeldt to attend the class, and while we were successful in ironing out some of their rough spots, it cost us a pretty penny to do so. Needless to say, the "pupils" won all the marbles at the expense of the "tutors" and a good time was had by all. We should like to mention as a warning to those who may sit in sometime with Bill Ihlanfeldt that when he deals his "eights wild" game it is a pretty good idea to fold up and run for cover. You just naturally can't beat the man.

Loretta Nobles, our comely and efficient personnel clerk, received a box of fine chocolates by Uncle Sam's parcel post some few weeks ago which had been dispatched by one of her many admirers. We appreciate this very much but hope they will send milk chocolates in the future. We prefer them to the bittersweet variety.

(Editor's Note: We like the bittersweet, or any other variety of chocolates. But we didn't get any. Our sterling honesty kept us from striking the words "comely and efficient" from the above paragraph in retaliation, but don't try us too far, Loretta!)

Vincent Anderson, formerly employed in our office and now with the Soil Conservation Service at Albuquerque, New Mexico, was a welcome visitor one day last week. "Andy," whose parents reside in Lincoln, is enjoying his annual leave and had completed a trip into Old Mexico and through California before coming here. The New Mexico climate must agree with him; he is looking fine and is as brown as a nut.

Entries are now being received for the Golf Tournament which will get under way immediately after June 1. To date 14 of the boys have signed on the dotted line and we expect to have a total of 18 or 20 before play begins. It is not yet too late and all that is required to qualify is an 18-hole score card recording a game played this year and a one-dollar bill for the trophy and banquet fund.

- O.K. Bartos, R.O.